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ABSTRACT

Using play constructions as a projective technique of investigation, Erik Erikson (1951) concluded from his observation of preadolescents that, during this developmental period, play constructions are largely determined by psychosexual differences. Erikson suggested that only observation of subjects in a younger and older developmental period could determine whether the differences were real or reflected oncoming sexual maturation in his subjects. The present study tested the hypothesis that there are no significant male/female differences in the height of structures, in the number of enclosures, or in the amount of activity present in the constructions of six-year olds. The experimenter observed the elementary school play constructions of 17 male and 17 female subjects, who were instructed to build and relate an exciting story. No significant differences were found between male/female constructions except in the number of furniture pieces used, where females were observed to use more funiture than males, which could be accounted for by chance. This data supported the hypothesis, except in the case of furniture usage, of no significant differences in the play configurations of six-year-olds. The data suggests that males and females may not be limited by their knowledge of differences in sexual morphology and/or function. (Author)

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Sex Differences in Spatial Play Behavior of Six-Year Olds

Play has come to be viewed as a serious continuation of the life process instead of a vacation from it. Erikson (1940) reports that children in a therapeutic situation reveal relevant life themes in their play. He distinguished play construction (three dimensional arrangement in space) as a valuable unit of investigation among projective techniques, most of which utilize two dimensional projection or verbal communication of spatial images.

Erikson, known for his work with children's patial play behavior, participated in the Child Guidance Study at the Institute of Child Welfare at the University of California at Berkeley during 1939-1940, where he observed preadolescent males build constructions of significantly greater height and tell stories which were filled with significantly more motion than female stories, while females included a significantly greater number of static enclosures in their constructions (Erikson, 1951). He had previously done two exploratory studies in which meaningful constructions were observed in play constructions of college students and of psychotic inmates of a state hospital; but in neither study was the humer of subjects sufficient to determine a statistically significant difference. He concluded that, during the preadolescent period, play construction is determined largely by psychosexual differences, i.e., that the preadolescent's knowledge of sexual morphology and function manifested itself in his play constructions (Erikson, 1951).

The implication of the study is, as Erikson (1951) suggests, that the two sexes may live in a time space of different quality, i.e. that men and

women may experience the world differently, that differences in play constructions are biologically determined and that the spatial tendencies of the constructions closely parallel the morphology of the sex organs.

Erikson (1951) also concluded that only comparative material derived from older and younger subjects living through other developmental periods can answer whether the emphasis he observed or modalities of sexual organs was due to the onset of sexual maturation in his subjects or whether the two sexes may actually live in time spaces of a different quality and be subject to experiences which are determined by biological factors.

A number of studies observing toy preference in child just over one year in age suggest that there are no sex differences in the use of toys; while others (Bronson, 1971; Goldberg & Lewis, 1969) suggest that males and females do choose somewhat different toys at this early age but find that the toy attributes responsible for the choices are obscure. Other studies (Kaminski, 1973; Jacklin, MacCoby & Dick, 1973) found the most manipulable toys most attractive to both sexes and that there were no sex differences in the use of these toys. Kate Frank (1946) attempted to demonstrate psychosexual differences in adults similar to Erikson's observations in preadolescents by measuring male/female preference for sex symbols, but she observed no significant differences in preferences of males and females.

The intent of this study is to produce comparative data from younger subjects, who are free of the focus of sexual maturation and who may show less constraint of culturally defined sex roles because of their age. The hypothesis to be tested is that currently there would be no significant differences in neight of structures, in number of enclosures, or in the

amount of activity present in the play construction of males and females at six years of age.

Method

Subjects

Seventeen male and seventeen female subjects, ranging in age from 5.8 to 7.2 years, were selected at random from an Atlanta elementary school. The range of incomes represented was upper lower to upper middle.

Apparatus

In addition to one hundred wooden blocks of varying sizes and shapes, eight pieces of plastic dollhouse furniture, a six member family of small clothed dolls, a series of slightly larger wooden uniformed men (policemen, astronaut, workmen, etc.) a group of twelve plastic soldiers, ten small plastic animals (representing domesticated and wild types) and three cars were made available for the constructions. They were built on a 3 X 6 feet table and photographed with a single lens reflex Minolta camera.

Procedure

After his name was drawn, each subject was taken from his classroom at a convenient time by a female experimenter to the classroom described above, where all of the mentioned materials were laid out on the back side of the table with the exception of half of the blocks, which were easily available in a large box beside the table. After some brief conversation with the subject ("Do you like to play with blocks?", "Have you ever seen this kind before?") to put the subject at ease, the experimenter instructed the subject to build an exciting story like one he might see on television or at the

movies and to use any of the materials he would like, and in addition, when he is finished, to tell the experimenter a story about what he has built.

The experimenter remained seated and occupied ten to twelve feet away from the subject until the subject acknowledged completion, at which time the experimenter asked that the subject tell her about what he had built while she recorded the story. If the subject was relectant to cooperate in the story telling, the experimenter asked for the most exciting part of the story.

The experimenter then complimented the subject on the construction, thanked him, and returned with him to his classroom. Each construction was photographed and the follwing data was recorded: sex of subject, number of blocks used, number of people used, number of animals used, number of cars used, number of furniture pieces used, number of enclosed spaces built (either attached or separate spaces enclosed by blocks), height of structures and number of tragedies included in each story. At a later time, each story was rated independently by a male and a female rater who were unfamiliar with the study on a scale of 1-5 with 5 representing the most acitivity present.

Results

In an attempt to measure the differences between males and females in this use of play space, a multivariate t-test (Hotellings J) was performed. There were no significant overall sex differences (F=1.075, df=). A significant difference was observed in one univariate test, the usage

of furniture, where females used a greater number of furniture pieces, which could be expected to occur by chance. The results of the univariate tests can be seen in Table 1.

Insert Table 1 About Here

Discussion

The data from this study provides support for the hypothesis that there are no sex differences in the use of play space, except in the case where females used more furniture pieces than males.

In the original study, Erikson (1951) found the most significant differences not in the frequency of use of certain toys, but in their arrangement in space. In males, outstanding variables were height and downfall, and motion and its channelization or arrest; in girls, static interiors, which are open, simply enclosed or blocked and intruded upon; i.e., in boys, an emphasis on the outdoors and outside; in girls, an emphasis on house interiors. Erikson drew a parallel between "height and downfall and motion and its channelization or arrest" and "static interiors, which are open, simply enclosed or blocked and intruded upon" and the morphology of the sex organs: in the male, external organs, erectible and intrusive in character, serving highly mobile sperm cells: internal organs in the female, with vestibular access, leading to statically expectant ova" (Erikson, 1951).

Two of the critical variables in this study were height and enclosed spaces in the play constructions. These variables could be objectively measured and, at the same time, represented outstanding variables from

which Erikson drew parallels to the morphology of sex organs. A third outstanding variable of Erikson's study was motion, which the experimenters attempted to measure through ratings of action in the subject's stories.

The experimenters agree with Erickson's (1951) suggestion that older and younger subjects in orther developmental periods should be observed to determined whether the emphasis on the modalities of the sex organs was due to the experience of oncoming sexual maturation or whether the two sexes may experience their environment differently because of their body differences.

This study represents a group of younger subjects and indicates that male/female differences in play constructions of six-year-olds is not significant. Even the difference in furniture usage, which could have been expected to occur by chance, can be explained more logically by culturally defined sex roles than by the subject's awareness of the morphology of sex organs and their function.

This data, coupled with data from an older group of subjects, will be more meaningful when a sample of today's preadolescents are used as a control in this study. In addition to answering the question raised by Erikson's suggestion, this new data would determine whether preadolescents today would demonstrate sexual modalities in their play constructions. If the results of Erikson's study were duplicated and preadolescents did demonstrate significant differences, this data would indicate that this was a characteristic peculiar to preadolescents (assuming that no significant differences were found in an older developmental period). If the results of Erikson's study could not be replicated and preadolescents did not demonstrate significant differences, this data would suggest that the 35

years difference in the time of the studies has been a confounding variable and that slowing changing attitudes toward sex roles has effected the limited ways in which the two sexes relate to their environment.

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TABLE 1: RESULTS OF UNIVARIATE TESTS

	No. blocks	No. people	No. enclosed spaces	No. animals	Height	No. tragedies	No. furniture pieces	No. cars	Activity
MALES									
Mean	17.2352	5.6471	2.2941	5.2353	11.94.2	0.9412	2.4118	1.5294	2.7353
Standard Deviation	10.4733	5.4879	1.9289	5.0429	6.9774	1.5195	3.3365	1.4628	1.0624
FEMALES									
Mean	18.2941	6.4118	2.4706	3.4706	12.7647	0.5294	4.9412	1.7059	2.9118
Standard Deviation	8.7519	6.2656	1.6247	7.3865	7.1110	1.0676	3.5438	1.3585	0.8703
UNIVARIATE VALUE	-0.32	-.038	-.029	0.95	-0.94	0.91	*-2.14	-.036	-0.53